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EXAMINER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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In re Application of :
Okuno et al. :
Serial No.: 10/573,821 :DECISION ON PETITION
Filed: 28 March 2006 :
Attorney Docket No.: 47259-5001-00-US (223490) :

This letter is in response to the Petition under 37 C.F.R. 1.144 filed on 14 September 2009.

BACKGROUND

This application was filed as a national stage application in compliance with 35 USC 371 and as such is subject to PCT unity of invention rules.

The examiner mailed first and second lack of unity determinations on 22 May, 2008 and 16 January 2009, respectively. These have both been vacated from the file.

On 2 February 2009, the examiner required applicants to elect from the following species:

The species are as follows:

(A) The proteases with one of the specific amino acid residue at the 97th position, as listed in Claims 1 and 12-17, for example.

(B) The cleavage motifs from the group consisting of the motifs described in Claims 1-9, 11-24, and 26-35. (It is noted that because SEQ ID NO: 12 encompasses SEQ ID NO: 11, no election of species would be required between SEQ ID NO: 11 and 12.)

From this species election requirement, it appears that applicant would be permitted to elect one protease and one cleavage motif. The examiner then indicated

Claims 1 and 12 are generic to the protease species.

Claims 1 and 12 are generic to the cleavage motif species.

On 3 April 2009, applicants replied as follows:

Election with Traverse

For Group (A), Applicants elect the embodiment where the 97th amino acid is Met, *i.e.*, methionine (claim 13). For Group (B), Applicants elect the embodiment where the cleavage motif is SEQ ID NO: 12 (claim 11). Applicants elect **WITH TRAVERSE**.

On 14 May 2009, the examiner considered the traversal and made the restriction requirement FINAL. Claims 1-11, 13, 14, 17-22, 24, 25, 28-35 were withdrawn from consideration pursuant to 37 CFR 1.142(b) as being drawn to non-elected inventions, there being no allowable generic of linking claims. Claims 12, 15, 16, 23, 26 and 27 were examined as follows:

Claims 12, 15, 16, 23, 26 and 27 were objected to for reciting non-elected subject matter. Claims 12, 15, 16, 23, 26 and 27 were rejected under 35 USC 101 and 35 USC 112, 1st and 2nd paragraphs.

On 14 September 2009, applicants filed a response to the Office action along with this petition under consideration.

DISCUSSION

The petition and file history have been carefully considered, with respect to the claims as currently pending.

Before turning to the merits of the petition, a few irregularities are noted in the prosecution history.

This national stage filing is entitled to PCT Unity of Invention practice with regard to any restriction or election of species requirement. However, the examination of a national stage filing must comport with US practice per 35 USC 372(a),

All questions of substance and, within the scope of the requirements of the treaty and Regulations, procedure in an international application designating the United States shall be determined as in the case of national applications regularly filed in the Patent and Trademark Office.

First, when the Office requires an election of species, generic claims which encompass the elected *must* be examined with the elected species. See MPEP 809.

Linking claims and the inventions they link together are usually either all directed to products or all directed to processes (i.e., a product claim linking properly divisible product inventions, or a process claim linking properly divisible process inventions). The most common types of linking claims which, if allowable, act to prevent restriction between inventions that can otherwise be shown to be divisible, are

- (A) genus claims linking species claims; and
- (B) subcombination claims linking plural combinations.

Where an application includes claims to distinct inventions as well as linking claims, restriction can nevertheless be required. *The linking claims must be examined with, and thus are considered part of, the invention elected.* (emphasis added)

In the third and latest restriction requirement, the examiner indicated that Claim 1 and 12 were generic to the species and yet, then withdrew claims 1 and 12 from examination in the next Office action. This is not correct.

Second, when the Office requires an election of species, the elected species must then be examined. The examiner cannot make or change an election, per MPEP 818.03.

Applicant must make his or her own election; the examiner will not make the election for the applicant. 37 CFR 1.142, 37 CFR 1.143.

On 3 April 2009, applicants clearly elected the embodiments of Claim 11 and Claim 13.

Election with Traverse

For Group (A), Applicants elect the embodiment where the 97th amino acid is Met, i.e., methionine (claim 13). For Group (B), Applicants elect the embodiment where the cleavage motif is SEQ ID NO: 12 (claim 11). Applicants elect **WITH TRAVERSE**.

Yet on 14 May 2009, the examiner withdrew the claims 11 and 13 from examination as being directed to a non-elected invention and then examined other claims on the merits.

Claims 1-35 are pending. Claims 1-11, 13, 14, 17-22, 24, 25, and 28-35 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim. Claims 12, 15, 16, 23, 26, and 27 are hereby examined.

This is not correct. The Office does not have the authority to elect an invention or a species for examination which is different from that elected by applicants.

Third, MPEP 808.01(a) sets forth the following guidance concerning election of species practice:

Election of species should not be required between claimed species that are considered clearly unpatentable (obvious) over each other. In making a requirement for restriction in an application claiming plural species, the examiner should group together species considered clearly unpatentable over each other. (emphasis in original)

In the third and latest restriction requirement, the examiner clearly indicated on the record that no election of species was required between SEQ ID No 11 and SEQ ID No 12:

(B) The cleavage motifs from the group consisting of the motifs described in Claims 1-9, 11-24, and 26-35. (It is noted that because SEQ ID NO: 12 encompasses SEQ ID NO: 11, no election of species would be required between SEQ ID NO: 11 and 12.)

Applicant then elected SEQ ID No 12, which meant that claims to SEQ ID No 11 and SEQ ID No 12 should have been examined together. However, of the subset of claims which the examiner elected for examination, Claim 26 (directed to SEQ ID No 12) was examined while Claim 25 (directed to SEQ ID No 11) was withdrawn from consideration.

Claim 25. (Withdrawn-Currently Amended) The ~~method~~ process of claim 12, wherein the amino acid sequence from the P5 to P1 positions of the desired cleavage site in the polypeptide or the fusion protein is Arg-Arg-Arg-Ala-Arg (SEQ ID NO: 11).

Claim 26. (Currently Amended) The ~~method~~ process of claim 12, wherein the amino acid sequence from the P7 to P1 positions of the desired cleavage site in the polypeptide or the fusion protein is Asp-Ala-Arg-Arg-Arg-Ala-Arg (SEQ ID NO: 12).

This is not consistent with the election of species requirement. An alignment of SEQ ID No 11 and 12 illustrates that SEQ ID No 11 is a nested fragment of examined SEQ ID No 12 which should have been searched and examined along with the elected species of SEQ ID No 12:

SEQ ID No 11	Arg-Arg-Arg-Ala-Arg
SEQ ID No 12	Asp-Ala-Arg-Arg-Arg-Ala-Arg

Fourth, both the examiner and applicants appear, in places, to have confused the two separate requirements to elect one of the proteases and one of the motifs with a requirement to elect either a protease or a motif. A requirement to elect *either* a protease *or* a motif would be inconsistent with International Search and Preliminary Examination Guidelines because both features are requirement by the claimed method of using a protease to cleave a protein which has a motif site. ISPE Guidelines Paragraph 10.17 states:

“The structural element may be a single component or a combination of individual components linked together.”

Fifth, the Office action mailed 14 May 2009 is incomplete for not only withdrawing claim 1 from examination and also for indicating that the “teachings of Okuno anticipate claim 1” because there is no corresponding rejection made under 35 USC 102 in the Office action.

If Okuno cannot be used in a rejection under 35 USC 102 or 103, then guidance in PCT International Search and Examination Guidelines, Paragraph 10.08 applies

If, however, an independent claim does not avoid the prior art, then the question whether there is still an inventive link between all the claims dependent on that claim needs to be carefully considered. If there is no link remaining, an objection of lack of unity a posteriori (that is, arising only after assessment of the prior art) may be raised. Similar considerations apply in the case of a genus/species or combination/subcombination situation.

In a genus/species situation such as this, if the independent generic claim is free of the prior art, unity is present. The absence of any prior art rejection on the independent generic claims points towards unity of invention being present amongst the species.

In view of these inconsistencies, the third restriction requirement and resulting first Office action on the merits have created confusion such that the Office has not established a clear record as required by MPEP 814, which states:

The examiner must provide a clear and detailed record of the restriction requirement to provide a clear demarcation between restricted inventions so that it can be determined whether inventions claimed in a continuing application are consonant with the restriction requirement and therefore subject to the prohibition against double patenting rejections under 35 U.S.C. 121. *Geneva Pharms. Inc. v. GlaxoSmithKline PLC*, 349 F.3d 1373, 1381, 68 USPQ2d 1865, 1871 (Fed. Cir. 2003). See also MPEP § 804.01.

Turning now to the merits of the petition, applicants requests that

- (1)(a) the objection over unity of invention should be withdrawn or
- (1)(b) the Office should apply Okuna reference under 35 USC 102
- (2) Claim 12 be considered a proper Markush group within PCT rules.
- (3) Claim 1 be considered a proper Markush group within PCT rules.
- (4) The objection of claims 12, 15, 16, 23, 26 and 27 for reciting non-elected subject matter should be withdrawn

Items(1)(a) and (1)(b) have been discussed above.

Turning to Items (2) and (3), Applicants request reconsideration and re-evaluation of claim 1 and 12 with regard to whether they contain a proper Markush Group. Claims 1 and 12 are directed to a method of using structurally and functionally related OmpT proteases.

Claim 1. (Withdrawn-Currently Amended) A process for cleaving a polypeptide comprising the steps of:

- (1) providing a polypeptide comprising arginine or lysine at the P1 position of a desired cleavage site, an amino acid other than aspartic acid, glutamic acid or proline at the P1' position, and a single basic amino acid[[.]] or two or three consecutive basic amino acids situated at any site in the amino acid sequence from the P10 position to the P3 position or from the P3' position to the P5' position, ~~(with the proviso that a single basic amino acid is not situated at the P6 or P4)~~ wherein, if there is only a single basic amino acid situated in the amino acid sequence from the P10 position to the P3 position, the single basic amino acid is situated at a position other than the P6 or the P4 position; and
- (2) cleaving the polypeptide with *E. coli* OmpT protease.

Claim 12. (Currently Amended) ~~A polypeptide cleavage method characterized by A process for cleaving a polypeptide comprising~~ cleaving a desired cleavage site of a polypeptide or a fusion protein using an *E. coli* OmpT protease 97th amino acid variant to produce a target peptide, wherein the 97th amino acid from the N-terminus of the OmpT protease is alanine, leucine, phenylalanine, methionine, serine, threonine, cysteine, asparagine, glutamine, glutamic acid or histidine.

The PCT International Search and Examination Guidelines, provide a series of examples which pertain to unity among biotechnology inventions. Although none of the biotechnology examples are directed to unity amongst process claims, Example 33 addresses unity amongst other multiple structurally and functionally related products, relevant portions set forth below.

10.53 *Example 33: Multiple Structurally and Functionally Related Polynucleotides*

Claim 1: An isolated polynucleotide selected from the group consisting of the nucleotide sequences SEQ ID NOs: 1-10.

The polynucleotides of claim 1 would be regarded as having the same or corresponding technical feature if the alternatives had a common property or activity, and shared a significant structural element that is essential to the common property or activity. Some Offices may regard claim 1 as a Markush grouping.

In this example, the description discloses that SEQ ID NOs: 1-10 share a common property, that is, expression of an mRNA present only in patients afflicted with disease Y. Moreover, SEQ ID NOs: 1-10 share a significant structural element that is essential to the common property, i.e., a probe comprising the shared structural element can detect the mRNA of patients afflicted with disease Y. Since both of these requirements are met, the group of polynucleotide molecules claimed meets the requirement of unity of invention (*a priori*).

Here, applicants are correct that the proteases share a common property or activity (cleaving peptides comprising the motif) and a significant structural element (OmpT protease) essential to that common property or activity. Unity of invention exists amongst the proteases and cleavage motifs.

Finally, applicants are correct that (4) the objection of claims 12, 15, 16, 23, 26 and 27 for reciting non-elected subject matter should be withdrawn. In view of the examination practice for Markush claims (MPEP 803.02), Applicants are entitled to retain non-elected subject matter recited in the alternative of a Markush claim. Also, in view of linking claim practice (MPEP 809) and rejoinder practice (MPEP 821.04), applicants are entitled to retain linked inventions which are encompassed by a linking claim and species as encompassed by a generic claim.

DECISION

The petition is **GRANTED** for the reasons set forth above.

The election of species requirement mailed 2 February 2009 has been withdrawn.

The Office action mailed 14 May 2009 has been withdrawn.

The objection of claims 12, 15, 16, 23, 26 and 27 for reciting non-elected subject matter is withdrawn.

Claims 1-35 will be examined together.

The application will be forwarded to the examiner for consideration of the papers filed 14 September 2009 and for preparation of an Office action consistent with this decision.

Because the extensive delays in initiating prosecution on the merits in this application, the next Office action will be reviewed by the Supervisory Patent Examiner prior to mailing, per MPEP 707.02 second paragraph.

“The supervisory patent examiners are expected to personally check on the pendency of every application which is up for the third or subsequent Office action with a view to finally concluding its prosecution.”

Should there be any questions about this decision, please contact Quality Assurance Specialist Julie Burke, by letter addressed to Director, Technology Center 1600, at the address listed above, or by telephone at 571-272-0512 or by facsimile sent to the general Office facsimile number, 571-273-8300.



Remy Yucel
Director, Technology Center 1600